

ABSTRACT OF THE DISCLOSURE

Optical waveguides can be made accurately using conventional semiconductor processing and equipment by forming an opening in a suitable substrate, conformally depositing a first cladding layer in the opening, filling the opening with a core material, removing excess core material, as by chemical mechanical polishing, and depositing a second cladding layer thereover, said first and second cladding layers and said core material each having a different index of refraction. Such optical waveguides can be connected, horizontally and/or vertically, to other devices formed in or on the substrate.